

5 What is claimed and desired to be secured by Letters Patent is:

1. A septum and needle assembly comprising:

 a needle having a proximal end and a distal end with an opening at the proximal end, wherein the needle defines a notch therein adjacent to the distal end,
10 and wherein a notch distance is defined as the distance between a proximal end of the notch and a distal end of the opening in the distal end of the needle;

 a housing; and

 a septum disposed in the housing and having a length greater than the notch distance, wherein the needle is slidingly disposed within the septum.

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2. The septum and needle assembly of claim 1 wherein a slit is disposed within the septum and the needle is slidingly disposed within the slit.

3. The septum and needle assembly of claim 1 further comprising a tube
20 attached to and in fluid communication with the housing.

4. The septum and needle assembly of claim 3 further comprising a female adapter attached to the tube.

25 5. The septum and needle assembly of claim 1 further comprising a biasing element operably engaged to the septum, urging the septum to a closed condition.

6. The septum and needle assembly of claim 5 wherein the biasing
30 element is a C-shaped clip.

7. The septum and needle assembly of claim 6 wherein the septum has a dumbbell shape and the C-shaped clip is directly engaged to the septum.

5 8. A vascular access device including:
a catheter;
a housing in fluid connection with the catheter;
a septum disposed within the housing and having a length;
a needle slidably disposed with respect to the catheter, the needle having a
10 proximal end and a distal end with an opening at the proximal end, wherein the needle
defines a notch therein adjacent to the distal end, and wherein a notch distance is
defined as the distance between a proximal end of the notch and a distal end of the
opening in the distal end of the needle;
a finger grip attached to the needle at its proximal end;
15 wherein the length of the septum is greater than the notch distance.

9. The vascular access device of claim 8 wherein the septum includes an
elastic plug disposed in the housing and having a proximal end, a distal end, an outside
longitudinal surface extending between the proximal end and the distal end, and a slit
20 disposed longitudinally through the elastic plug.

10. The vascular access device of claim 9 further comprising a biasing
element disposed in the housing about the elastic plug and in contact with the outside
longitudinal surface of the plug, wherein the biasing element is in a single fixed
25 location with respect to the housing and continuously exerts a biasing force on the
plug.

11. The vascular access device of claim 9 wherein said elastic plug further
comprises an annular groove disposed in the outer surface of the plug.

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12. The vascular access device of claim 9 further comprising a biasing
element disposed in the housing about the elastic plug and in contact with the outside
longitudinal surface of the plug, wherein the biasing element is in a single fixed

5 location with respect to the housing and continuously exerts a biasing force on the plug, wherein said elastic plug further comprises an annular groove disposed in the outer surface of the plug and wherein the biasing element is placed in contact with the annular groove.

10 13. A catheter assembly, comprising:
a catheter;
an adapter connected to the catheter, the adapter defining a cavity therein;
an elastic plug disposed in the adapter and defining a length, a circumference
and a slit disposed longitudinally through the elastic plug;

15 a biasing element disposed in the adapter about the elastic plug and in contact with the circumference at a permanently fixed position; and

a removable needle extending through the slit, the needle having a proximal end and a distal end with an opening at the proximal end, wherein the needle defines a notch therein adjacent to the distal end, and wherein a notch distance is defined as the
20 distance between a proximal end of the notch and a distal end of the opening in the distal end of the needle.

14. The catheter assembly of claim 13 wherein the biasing element exerts a radially directed compressive force against the outside longitudinal surface of the
25 elastic plug.

15. The catheter assembly of claim 13 wherein the biasing element does not extend completely about the circumference.

30 16. The catheter assembly of claim 13 wherein the elastic plug is mounted to the adapter at a fixed axial position.

5 17. The catheter assembly of claim 13 wherein the biasing element is a C-shaped clip.

 18. The catheter assembly of of claim 13 wherein the elastomeric plug has a dumbbell shape.

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 19. The catheter assembly of claim 13 further comprising a tube in fluid communication with the adapter and a finger grip attached to the needle at its proximal end.

15 20. The catheter assembly of claim 19 wherein the biasing element is a c-shaped clip that does not extend completely about the circumference of the elastic plug but does exerts a radially directed compressive force against the outside longitudinal surface of the elastic plug.

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